

CLAIMS:

1. An apparatus comprising an optical input device controlled by a moving object and an optical keyboard, which input device comprises at least one optical sensor unit comprising a diode laser for supplying a measuring beam and converting means for converting measuring beam radiation reflected by the object into an electric signal, which
5 converting means are constituted by the combination of a laser cavity and measuring means for measuring changes in operation of the laser cavity, which are due to interference of reflected measuring beam radiation re-entering the laser cavity and the optical wave in this cavity and which are representative of the movement of the object, characterized in that the path of the measuring beam from the diode laser to the window extends through a light guide
10 of the optical keyboard.
2. An apparatus as claimed in claim 1, characterized in that the input device comprises two sensor units, which are arranged relative to the optical keyboard such that the measuring beam of the first and second sensor unit passes on its way to the device window
15 the positions of a first set of keys and the positions of a second set of keys, respectively, the first set and the second set together comprising all keys to be controlled.
3. An apparatus as claimed in claim 1, characterized in that the input device comprises three sensor units, which are arranged relative to the optical keyboard such that the
20 measuring beam of the first, the second and the third sensor unit passes on its way to the device window the positions of a first, a second and a third set of keys, respectively, the first, second and third set comprising all keys to be controlled.
4. An apparatus as claimed in claim 1, characterized in that the input device
25 comprises a sensor unit adapted to measure both a scroll movement and a click movement and provided with additional means, which allow establishing the presence of an object on the window of the device.

5. An apparatus as claimed in claim 4, characterized in that the additional means are constituted by means for establishing whether the modulated measuring beam radiation shows an amplitude variation of a frequency lower than the frequencies of variations caused by a scroll movement.

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6. An apparatus as claimed in claim 5, wherein the said sensor unit comprises a first radiation-sensitive detector for measuring variations in the laser cavity, characterized in that the additional means is constituted by a second radiation-sensitive detector arranged for receiving measuring beam radiation, which is non-incident on the laser cavity.

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7. An apparatus as claimed in claim 4, characterized in that the additional means are constituted by electronic means for detecting said component in the output signal of said measuring means.

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8. An apparatus as claimed in claim 4, wherein said sensor unit is activated by activation pulses and the measuring means perform measurements during time intervals determined by the activation pulses, characterized in that the additional means comprises counting means and comparing means to establish whether the number of undulations in the output signal measured during a first and second half of a said time interval are equal.

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9. An apparatus as claimed in any one of claims 1-8, characterized in that the measuring means of the input device are means for measuring a variation of the impedance of the laser cavity.

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10. An apparatus as claimed in any one of claims 1-8, characterized in that the measuring means is a radiation-sensitive detector for measuring radiation emitted by the laser.

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11. An apparatus as claimed in claim 5, characterized in that the radiation-sensitive detector is arranged at the rear side of the laser cavity.

12. An apparatus as claimed in claim 6, characterized in that the second detector is arranged at the side of the laser cavity where the measuring beam is emitted.

13. A mobile phone apparatus equipped with an integrated optical keyboard and optical input device as claimed in any one of claims 1-12.

14. A cordless phone apparatus equipped with an integrated optical keyboard and optical input device as claimed in any one of claims 1-12.

15. A laptop computer equipped with an integrated optical keyboard and optical input device as claimed in any one of claims 1-12.

10 16. A hand-held computer equipped with an integrated optical keyboard and optical input device as claimed in any one of claims 1-12.

17. A keyboard for a desk computer equipped with an integrated optical keyboard and optical input device as claimed in any one of claims 1-12.

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18. A remote control for a TV set equipped with an integrated optical keyboard and optical input device as claimed in any one of claims 1-12.